

ASM for RSSP



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RSSP Meeting

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Briefing Outline

- **Logistics Transfer Issues**
- **Project Objectives**
- **Design Concept**
- **Automated Wholesale Emulator**
- **Data Discussion**
- **Status**
- **Future Possibilities — The Interactive ASM**
- **Summary**



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➤ **Logistics Transfer Issues**

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Logistics Transfer Issues

- **Budgeting for and conducting logistics reassignment to DLA**
 - **What items should DLA plan to stock?**
 - **Numeric Stock Objective and Replenishment items**
 - **For replenishment items, what assets are needed to cover procurement lead time and possibly some safety level?**
 - **Additional operating stock?**
 - **What level of supply support should DLA provide after transfer?**



DLA Stockage Policy

- **Cannot precisely emulate DLA policy**
 - **DLA replacing legacy system with BSM software**
 - **Emerging policy similar to current policy**
 - **Safety levels will likely change after logistics reassignment anyway**
- **Recommend transferring least cost safety stock for given fill rate goal**
 - **We are providing that capability in the modified Aircraft Sustainability Model (ASM)**



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Project Objectives

- **Provide RSSP with tools to facilitate transfer of assets, demand history, etc. during logistics reassignment**
 - **Emulate wholesale requirement computation procedures in the Aircraft Sustainability Model (ASM) for the RSSP**
- **Develop prototype process for several pilot programs**
- **Provide training and documentation on use of new ASM features**



ASM Background

- **ASM is the inventory requirements model used by the AF (D087/WSMIS) to compute deployment packages for DLRs**
 - **Also used for initial provisioning applications**
- **This task involves expanding the ASM to compute wholesale and retail consumable requirements, as well as interfacing with the Data Exchange**



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Design Concept

- **Incorporate required functionality in LMI ASM**
 - **Consumable items**
 - **New capabilities within ASM umbrella**
 - **Wholesale emulator complete**
 - **Estimate “proper” amount of assets to transfer to DLA**
 - **Linked Wholesale/Retail (SBSS) also under development**



Design Concept (continued)

- **Link to Data Exchange**
 - **Feed ASM with data to run wholesale emulator**
 - **ASM sends results back to Data Exchange for logistics reassignment**
- **Provide planning and budget estimates for programs**



Design Concept (continued)

- **ASM runs “automatically” and feeds results to Data Exchange**
 - **Stand alone model (DLL)**
 - **Detects new data text file**
 - **Runs Automatically**
 - **ASM will FTP data text files to a location where DE can pick up**



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Automated Wholesale Emulator

- **Automated version hard coded to current DLA optimization policy**
 - **Minimum cost safety level for given supply performance**
- **Provide sets of stock levels to DE**



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Data Discussion

- **Wholesale (DLA) Item Data**
 - **NSN**
 - **Price**
 - **Demand quantity per unit time**
 - **Demand frequency per unit time**
 - **Demand variance**
 - **Procurement lead-time**
 - **Item essentiality code**
 - **Assets (on-hand, on-order, backorders)**



Data Discussion (Continued)

- **Test with C17 Demand Data**
 - **Obtained 2 year quarterly demand history on ICP (Boeing) from AFLMA**
 - **Both demand frequency and quantity**
 - **Demo available**



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Status

Jan 03 meeting with CSC and RSSP group resolved that:

- Wholesale emulator would be a stand alone product**
 - Data feeds will initiate computation and item results will be fed back to DE**
 - DE will produce aggregate results**
- SBSS and DO35K retail emulators are not currently required**
 - SBSS emulator has been disabled**



Status (continued)

- **Discussed data exchange with CSC**
 - **Data needs and sources for DLA emulator identified**
 - **Data needs and sources for SBSS emulator identified, but deferred**
 - **Data sources to support D035K emulator will also need to be delayed until pilot programs mature**



Status (continued)

- **Submitted DISA DECC-D Customer Requirements Questionnaire**
- **Demo version, wholesale test data, and wholesale user documentation provided to CSC and RSSP**
- **Updated wholesale data documentation**
- **Working on integrating computational engines into automated program that will FTP the results to DE**
- **Awaiting decision on linked Wholesale/Retail (SBSS) emulator**



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Future Possibilities — the Interactive ASM

- **Original LMI Concept -Interactive ASM for decision making**
 - **Allows project managers to run and re-run data in “what-if” scenarios**
 - **More accessible data management, manipulation, and storage**
 - **Useful for debugging automated implementation**



Future Possibilities — the Interactive ASM

- Perform analyses with different optimization methods

DLA Consumable Spares Optimization

Spares Computation Emulator

For DLA Consumables

Select the type of run you would like to make.

Run Type

- ☒ Wholesale Only
- ☐ Integrated Wholesale/Retail
- ☐ Retail Only

Spares Requirements Methods (Wholesale)

- ☒ Minimize Spares Cost
- ☐ Maintain a Constant Fill Rate
- ☐ Maintain Constant Service Level

Range for Fill Rate Curve (Wholesale)

Enter Minimum Curve Value: 80 %

Enter Maximum Curve Value: 95 %

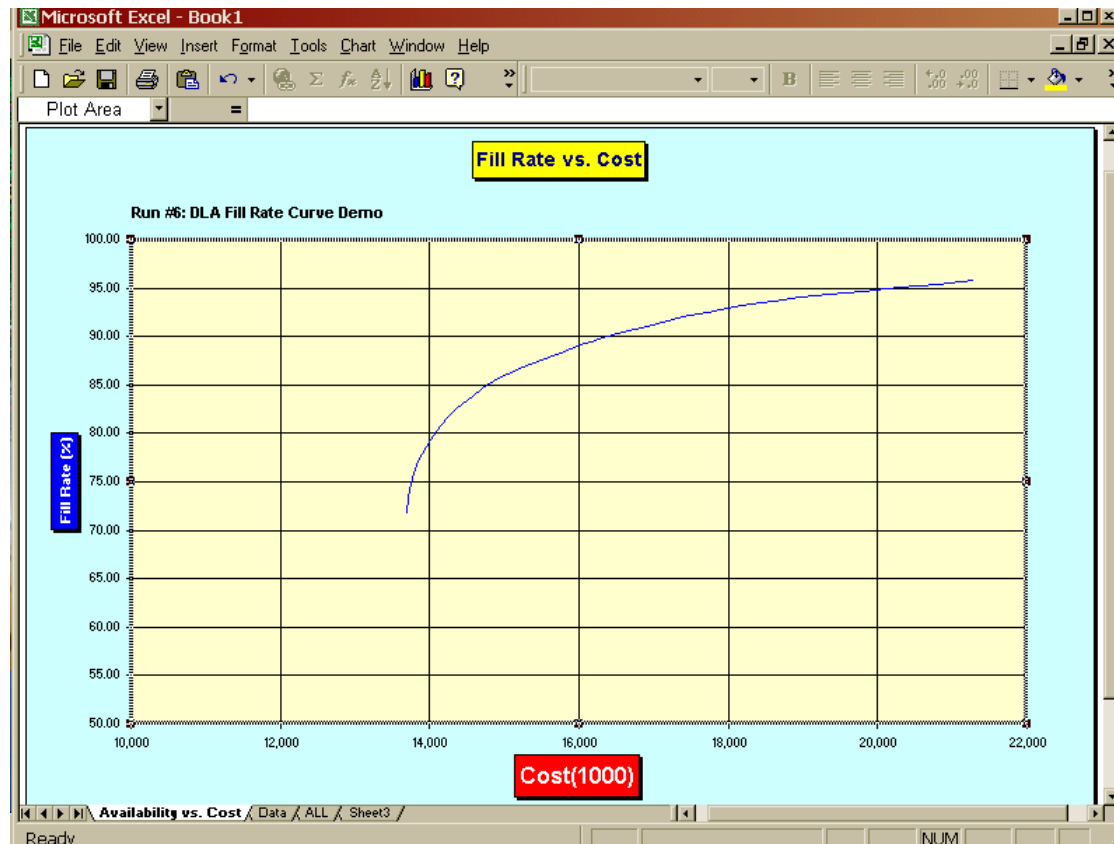
Enter Curve Increment: 2.5 %

Next



Future Possibilities — the Interactive ASM

- Create tables showing fill rate vs. cost directly in Excel





Future Possibilities — the Interactive ASM

- View cost/performance trade-off and select solution interactively

Select Solution

Select Solution
→
(Click on desired row)

Pass	ROP Cost	Fill Rate	Wait Time	Tot EBOs	PLT Cost	Shadow Price	Solution	EOQ Cost
1	14072588	80.0000	40.8	420.23	13,688,933	4315		2502629
2	14355803	82.5100	35.8	365.33	13,688,933	6182		2502629
3	14786495	85.0000	31.2	308.62	13,688,933	9285		2502629
4	15448800	87.5000	26.9	251.48	13,688,933	14417		2502629
5	16382354	90.0100	23.2	199.68	13,688,933	21851		2502629
6	17742232	92.5000	19.9	149.77	13,688,933	34229		2502629
7	20061032	95.0000	17.1	100.33	13,688,933	64191	AVAIL	2502629

ROP Cost
20,061,032

PLT Cost
13,688,933

EOQ Cost
2,502,629

Finish



Future Possibilities — the Interactive ASM

- Flexible item level browses that are easy to export to Excel or Word

ALL ITEM DATA: Browse / Report Designer

Description: **Run #008 (04/08/2003) - DLA Fill Rate Curve** List: **All Item Data**

Selection Browse Help

USAFDLA Standard

Select \ Multi-Select Items in the Lists:
There are 3 ways to move items between the lists. (1) Press a Button,
(2) Double-Click on an item or (3) Drag selected item(s) from one list to another.

UnSelected Fields		Selected Fields
NHA	<div>Add ></div> <div>Add All >></div> <div>REORDER_PT</div> <div>< Remove</div> <div><< Remove All</div>	NSH
Order Quantity		MIC code
PLTT Adj		PLTT
QPA		Cost
RBO		Demand/day
Reorder Point		Requisitions/day
STD demand		EBOs 1
Target		Buy Total
Tot Asset		
Tot Pipe 1		
Type		
Wait Days 1		

Selected Item Description: **Spares are ordered when assets (on hand & on order) drop to this point**

Print Preview Print Write (.WRI) Export (.TXT) Export (.XLS) Close



Future Possibilities — the Interactive ASM

- Compare analyses side by side

2 SHOP LISTS: Browse / Report Designer

Description: **A=Run1: DLA Demo** vs **B=Run6: DLA Fill Rate Curve De** List: **2 Shop Lists**

Selection Browse Help

Filter Condition: **Name** **Filter Type** **Filter Value** **Apply Filter**

Single Field Sort: **TARGET | A-B| (Descending)** Export File: **shp2_out**

Incremental Find: ☐ Multi-Field Sort **Apply**

NSN	Target A	Target B	Target A-B
5305013339890BA	14477	10196	4281
5895997248312BA	3291	2040	1251
5305013571836BA	3516	2460	1056
6145014767554BA	1276	632	644
5310013970307BA	1992	1384	608
5320013914312BA	1718	1187	531
5305013327155BA	9691	9201	490
1650014153150BA	2201	1764	437
5305014582153BA	1360	1021	339
5320013913604BA	969	632	337
5965014243297BA	907	583	324
5325013562509BA	1020	696	324

Print Preview Print Write (.WRI) Export (.TXT) Export (.XLS) Close



- Find Model Run**

Field Sort: *RunID (Descending)*

Incremental Find:

[Help - Incremental Find](#)

Sorting: Click on the Column's Title for Ascending Sort, RightClick for Descending Sort

RunID	Date	Description	Kit Name	KitID
8	04/08/2003	DLA Fill Rate Curve	DLA DEMO	1
6	04/08/2003	DLA Fill Rate Curve Demo	DLA DEMO	1
3	03/05/2003	RUN #3: DLA Demo	DLA DEMO	1
2	03/05/2003	RUN #2: DLA Demo	DLA DEMO	1
1	03/03/2003	DLA Demo	DLA DEMO	1



Future Possibilities — the Interactive ASM

- Archive/Retrieve Analysis Sets

The screenshot shows a dialog box titled "ARCHIVE / RETRIEVE" with a subtitle "Archive / Retrieve". The "Type:" dropdown menu is set to "Swap". Below this, there are two sections for file selection. The first section, "Save Data to Archive (.Z40) File", has a checked checkbox and a text field containing "C:\ASM_DLA\Archives\test_runs.Z40". To the right of the text field is a "Browse..." button and a floppy disk icon with a yellow arrow pointing to it. The second section, "Restore Data from Archive (.Z40) File", also has a checked checkbox and a text field containing "C:\ASM_DLA\Archives\Baseline.Z40". To the right of the text field is a "Browse..." button and a floppy disk icon with a yellow arrow pointing to it. At the bottom of the dialog, there are two status fields: "Zip Status - Major" and "Zip Status - Minor", both currently empty. The bottom of the dialog features two large buttons: "Save / Restore" and "Cancel".

ARCHIVE / RETRIEVE

Archive / Retrieve

Type: **Swap** *Save this Data Set / Retrieve Baseline or Archive*

☒ Save Data to Archive (.Z40) File

C:\ASM_DLA\Archives\test_runs.Z40 **Browse...**

☒ Restore Data from Archive (.Z40) File

C:\ASM_DLA\Archives\Baseline.Z40 **Browse...**

Zip Status - Major

Zip Status - Minor

Save / Restore **Cancel**



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Summary

- **Development of wholesale emulator and SBSS retail computation engines complete**
- **Currently finalizing data documentation**
- **Need to resolve implementation options**
 - **Automated (limited) and/or Interactive (full)**
 - **Full install would provide greater capability, including access to RSP capability for DLRs, as well as assist with debugging**



Summary (continued)

- **Training requirement**
 - **Automated requires minimal training**
 - **Full requires comprehensive training**
 - **Capability for making video lessons has been successful in AF implementation**



Questions?

